

## ABSTRACT

A material control system (MCS) to select an optimum transport route by calculating a prospective transport time between a source node and a destination node includes a transport order manager to receive and manage layout information, and real-time job information of a load and a waiting job number of a storehouse according to respective unit links. The MCS also includes an optimum route generating part to calculate the prospective transport time by receiving the layout information and the real-time job information in a predetermined period of time from the transport order manager and by modeling the information. The optimum route generating part also selects a transport route having a minimum prospective transport time as the optimum transport route. Thus, a transport flow of production lines may be balanced, and interruption between transport vehicles may be minimized, thereby enabling overall transport efficiency to be maximized.